

**METHOD AND SYSTEM FOR OF COMPENSATING FOR DATA STORAGE DISC  
STACK IMBALANCE DURING DISC DRIVE ASSEMBLY**

**Abstract of the Disclosure**

5           A method and system of compensating for imbalance in a data storage disc stack during  
assembly of the data storage device. The method introduces an optical measurement system  
downstream of the disc clamp installation operation. The system measures multiple parameters of  
a most recent N incoming disc-stacks produced on the assembly line, where N is a suitable  
sample size, such as 30 disc stacks. The measured parameters can comprise disc clamp offset,  
10   clamp offset angle, and ring outer diameter. After measuring parameters for a suitable sample  
size N, the optical system calculates a dynamic or moving average of the most recent N disc stack  
component offsets and/or offset angles. The calculated averages are then utilized to determine a  
component configuration type that will compensate for the disc stack imbalance according to the  
offset trend. The system then feeds back the clamp configuration type to a clamp installation  
15   operation where the configuration type is installed during assembly of the next disc stack.